

New National Strategies Session

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Office of Air Quality Planning and Standards
US Environmental Protection Agency**

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Clearing the Path to Clean Air:

Strategic and Technological Innovations for Ozone SIP Development



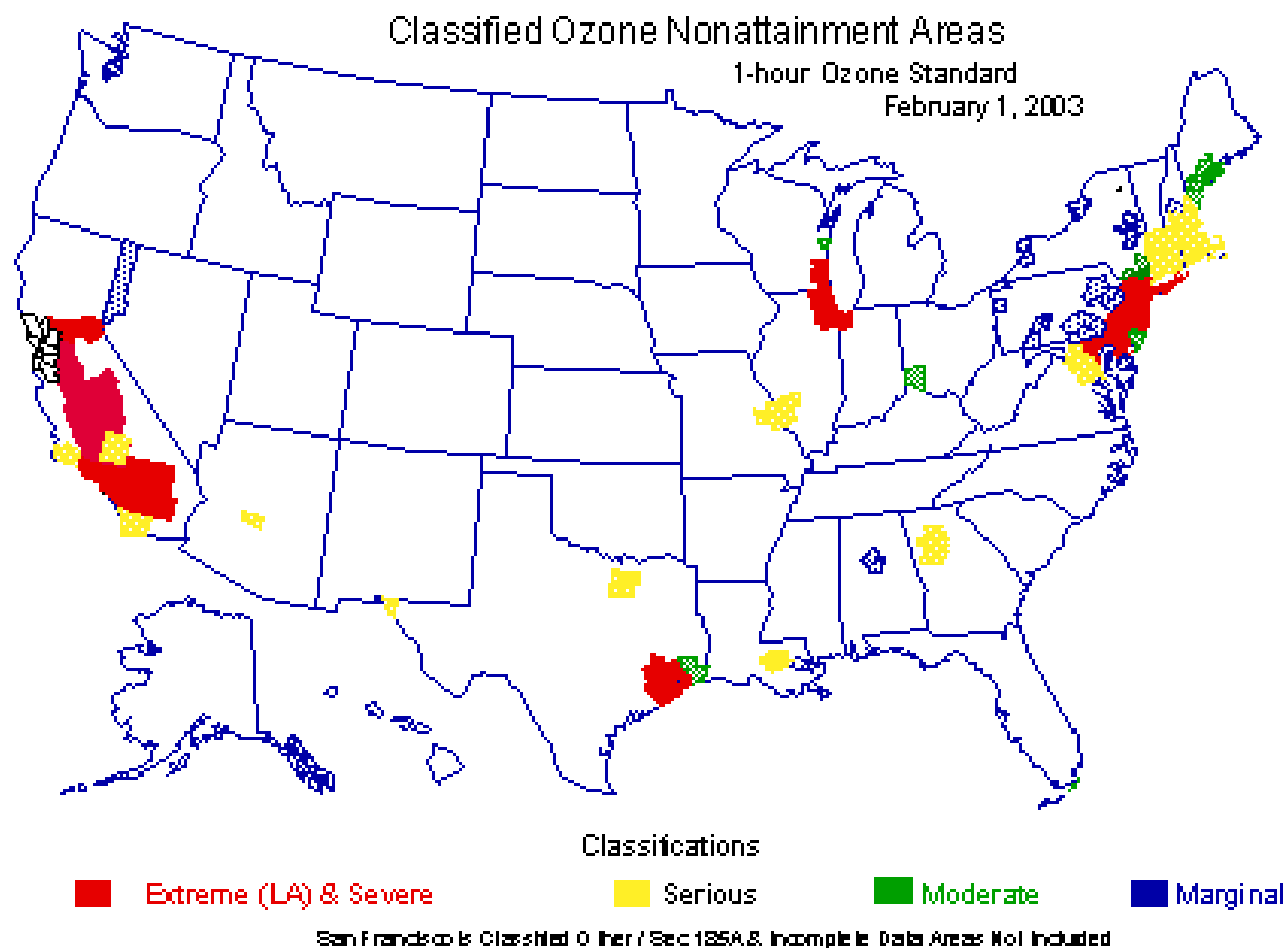
When considering the “National Strategies” issue, let’s first...

- **Review review the national ozone problem**
- **See what (and where) are the national emissions**
- **Look at the pasts control efforts**
- **Think about future national control efforts**

1-hour NAAQS

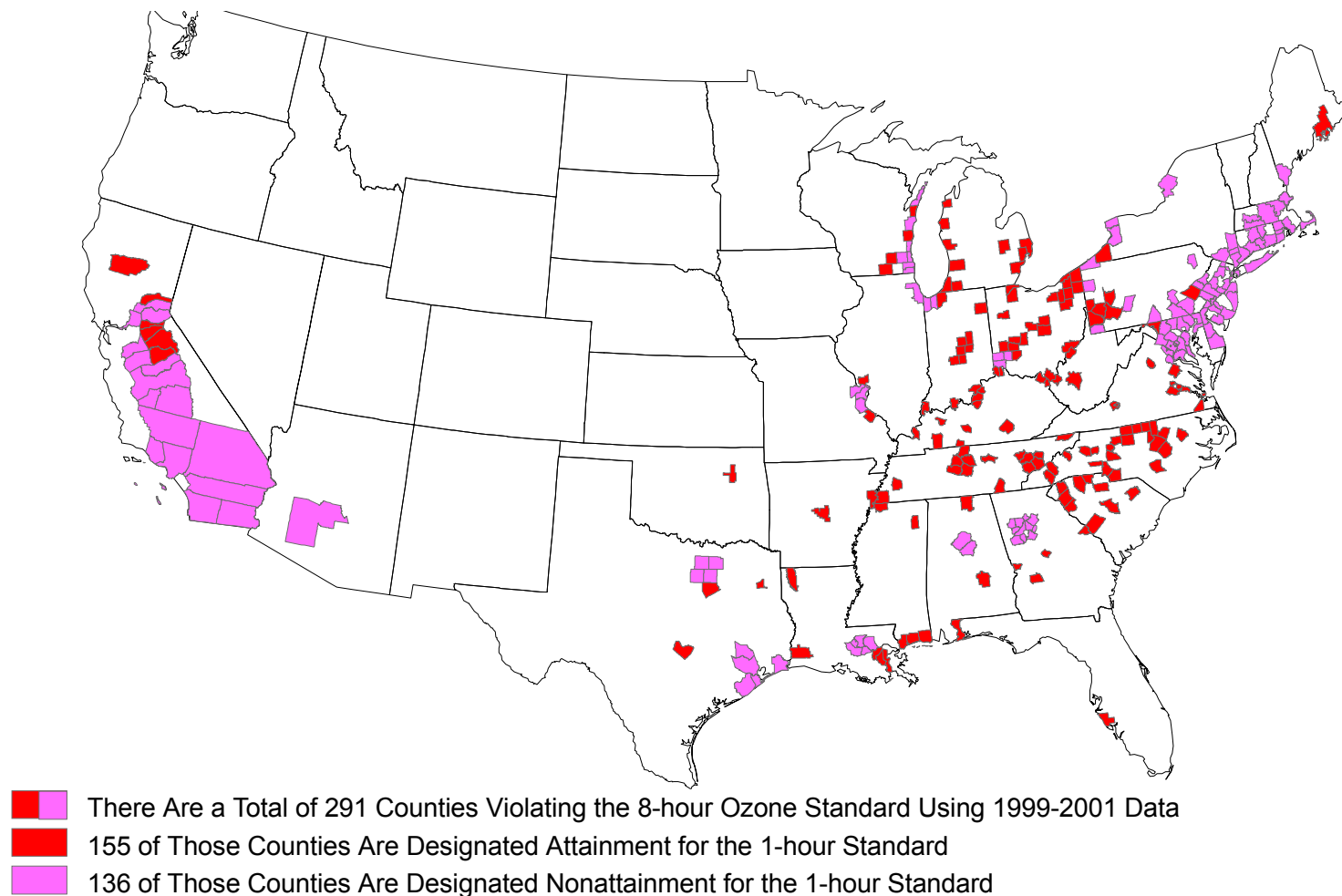
Question #8 ...

What does the national Ozone NA picture look like today?

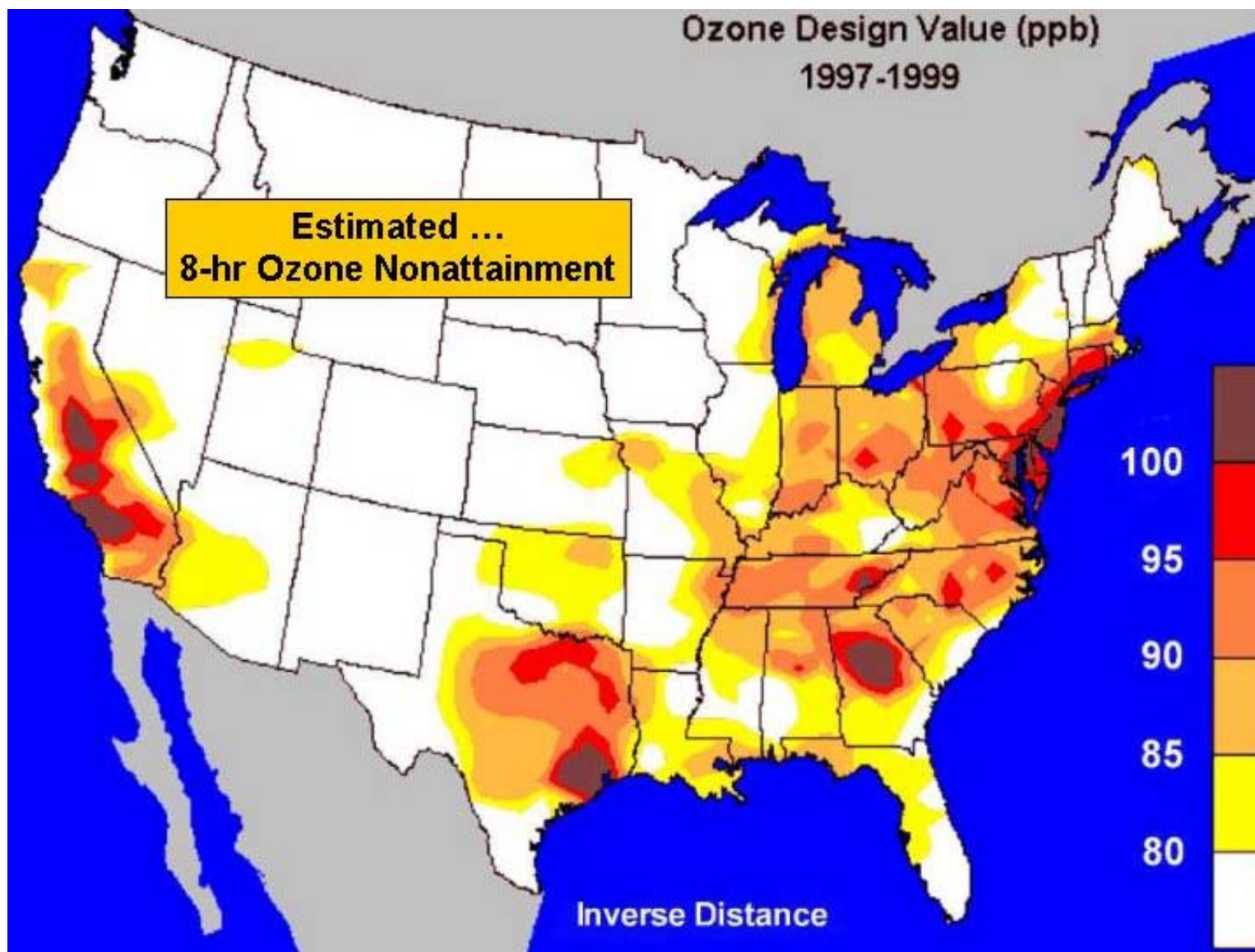


What does the national Ozone NA picture look like today?

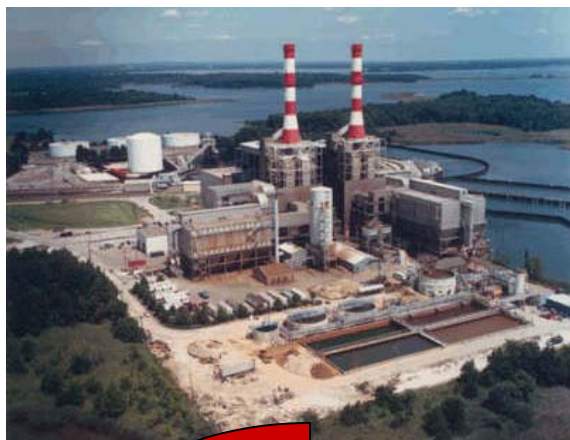
Areas that exceed the 8-hr. ozone standard—1999-2001



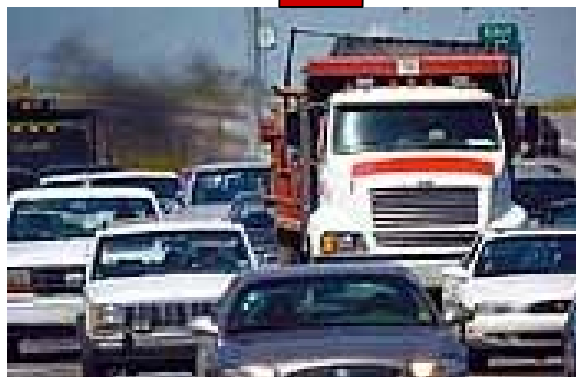
Regional strategies definitely have a role ...



Where do ozone precursors originate?



NO_x



NO_x
VOC

VOC **NO_x**

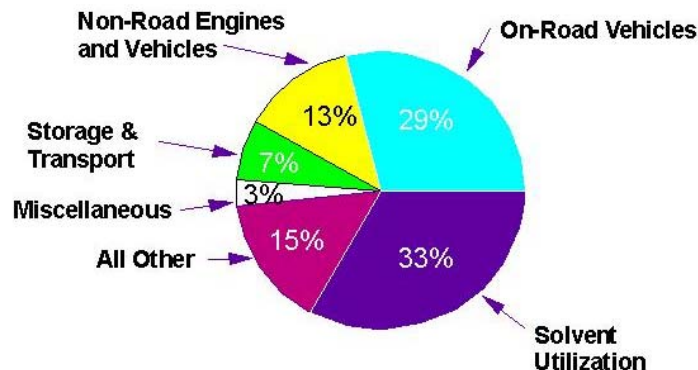


Where do ozone precursors originate?

- Air pollutants are “inventoried” according to emission sectors such as fuel combustion, solvent uses, etc..
- Examples of national emissions of VOCs and NO_x ... pollutants that form ozone.

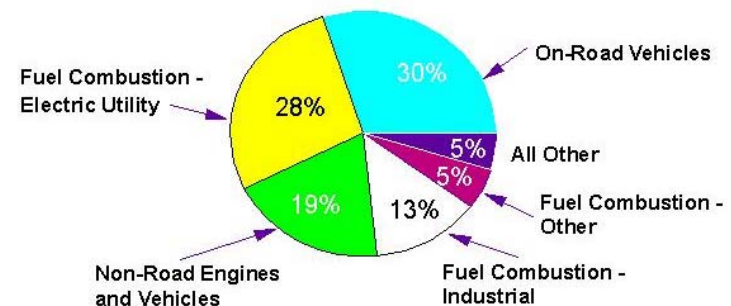
From where do the VOC emissions come?

National VOC Emissions by Source Category
(man-made)



From where do the NO_x emissions come?

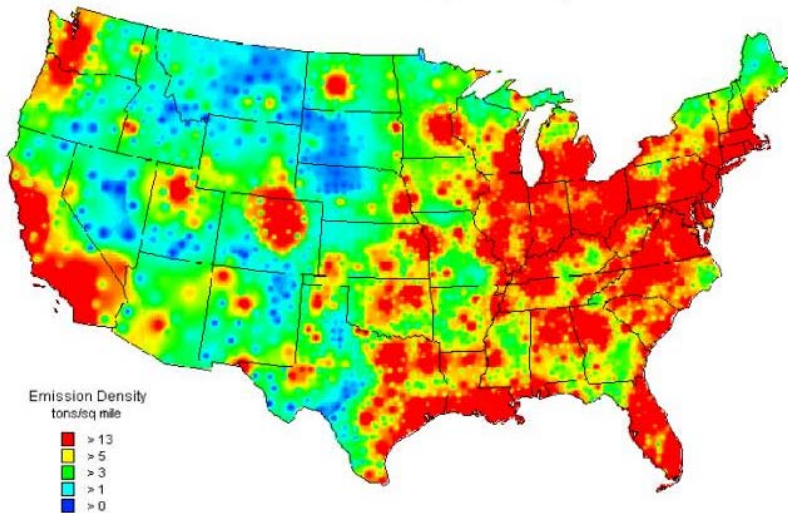
National Distribution of NO_x Emissions



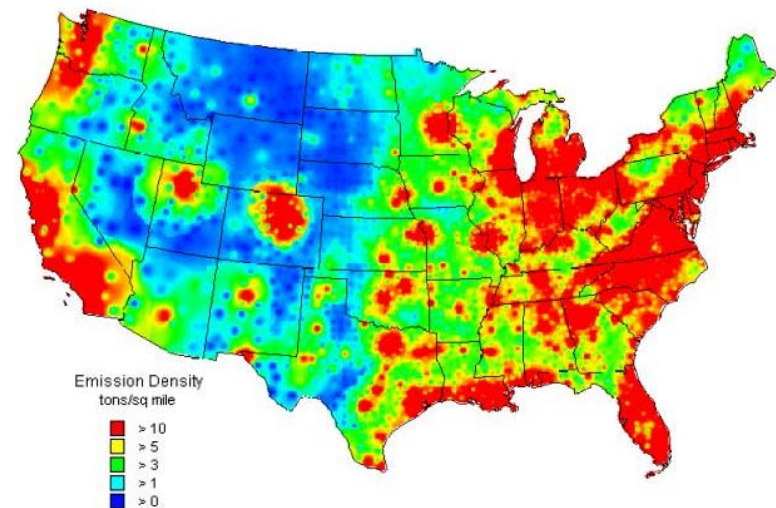
What are the sources of air pollutant emissions?

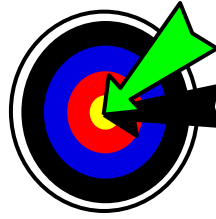
- The National picture of the distribution of NO_x and VOC emissions:

Density Map of 1998 NITROGEN OXIDE
Emissions by County



Density Map of 1998 VOLATILE ORGANIC COMPOUND
Emissions by County





What are control measures that are placed in SIPs?

- **Stationary and area source VOC controls for 30+ categories ... coatings, plastic parts, degreasing, printing, fuel transfers**
- **Fuel combustion at power plants and heaters ... nitrogen oxides (NO_x)**
- **Reformulated gasoline plus vapor pressure limits**
- **Transportation control measures and programs**
- **National control measures Federal clean car requirements, heavy-duty diesel controls, New Source Performance Standards, Consumer/Commercial National VOC rules.**

Examples ... more local than national

What are control measures that are placed in SIPs?

Industrial VOC controls



Auto Testing –I/M

Surface coating controls



NOx RACT controls



Stage 2 Vapor controls



Transportation controls



Industrial VOC controls



Electric Vehicles



"Super clean" cars

**EXAMPLES OF SOURCE CATEGORIES
COVERED BY USEPA CONTROL REQUIREMENTS....**

**VOLATILE ORGANIC COMPOUND
REASONABILITY AVAILABLE CONTROL TECHNOLOGY (RACT)**

New Component Standards

- Pressure drop budget for balance system components
- Vapor check valves
- Unihose dispenser



**EXAMPLES OF SOURCE CATEGORIES
COVERED BY USEPA CONTROL REQUIREMENTS....**

**VOLATILE ORGANIC COMPOUND
REASONABILITY AVAILABLE CONTROL TECHNOLOGY (RACT)**

GASOLINE LOADING TERMINALS
GASOLINE BULK PLANTS
FIXED ROOF PETROLEUM TANKS
MISCELLANEOUS REFINERY SOURCES

SURFACE COATING OF:

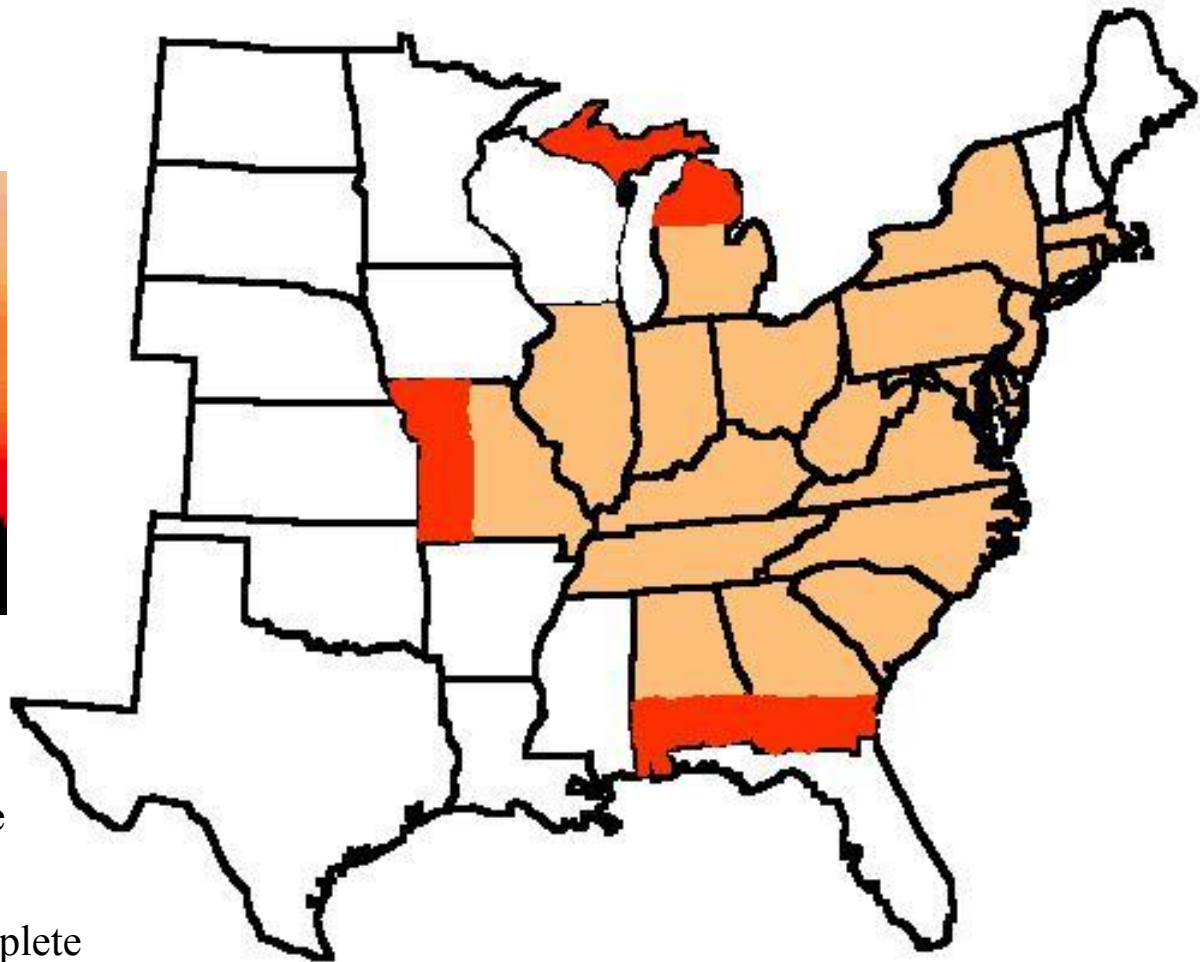
CANS
METAL COILS
FABRICS
PAPER PRODUCTS
AUTOMOBILE AND LIGHT DUTY TRUCKS
METAL FURNITURE
MAGNET WIRE
LARGE APPLIANCES
MISCELLANEOUS METAL PARTS
FLAT WOOD PANELING
GRAPHIC ARTS

LEAKS FROM PETROLEUM REFINERIES
EXTERNAL FLOATING ROOF PETROLEUM TANKS
GASOLINE TRUCK LEAKS AND VAPOR COLLECTION
SYNTHETIC PHARMACEUTICAL MANUFACTURING
RUBBER TIRE MANUFACTURING
EQUIPMENT LEAKS FROM NATURAL GAS/GASOLINE
PROCESSING PLANTS
MANUFACTURE OF HDPE, PP, AND PS RESINS
FUGITIVE EMISSIONS FROM SOC, POLYMER, AND
RESIN MANUFACTURING EQUIPMENT
LARGE PETROLEUM DRY CLEANERS
SOCMI AIR OXIDATION PROCESSES

CATEGORIES PREDOMINATED BY AREA SOURCES:

SERVICE STATIONS STAGE I
CUTBACK ASPHALT
SOLVENT METAL CLEANING
COMMERCIAL DRY CLEANING

States required to control regional NOx emissions (the “NOx SIP call”)



- Portions in **RED** will not be covered
- Rulemaking needed to complete requirements for Ga and Missouri

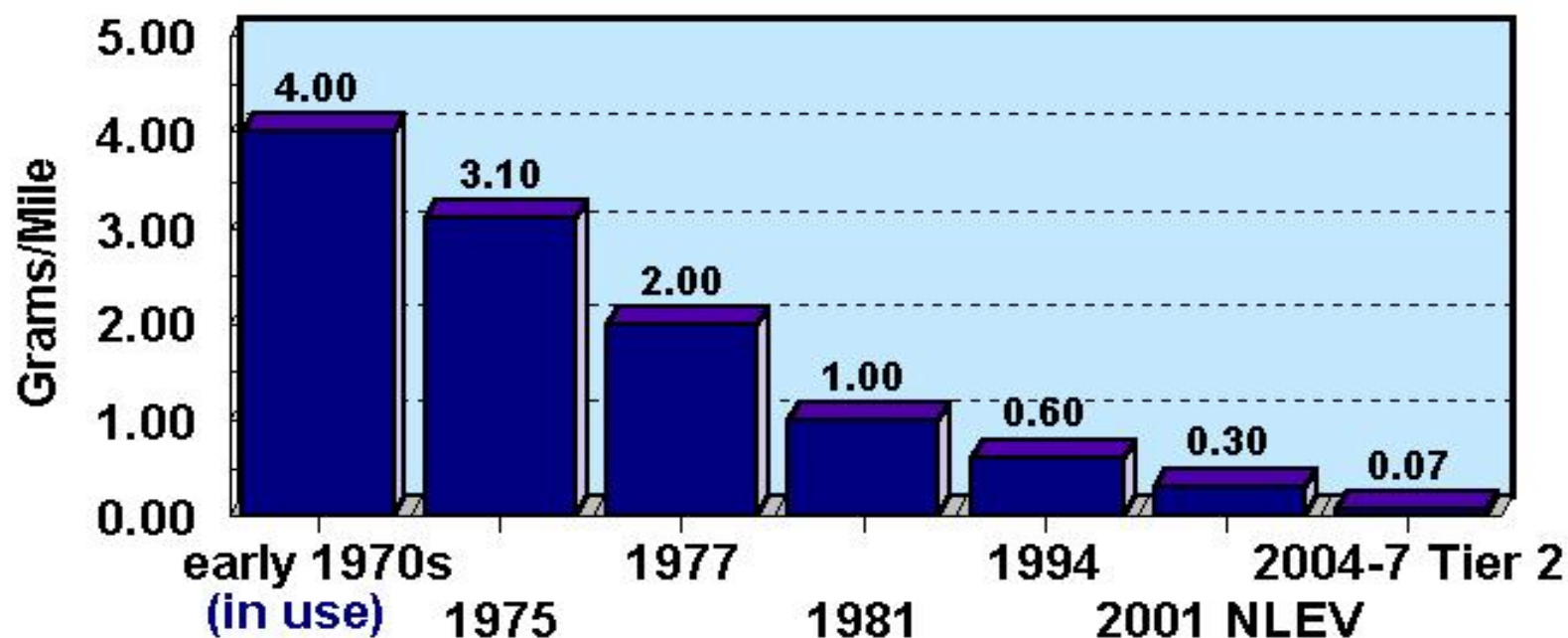
National "cleaner car" control effort...

How Have Auto NO_x Emissions Standards Changed Over Time?

National "cleaner car" control effort...

How Have Auto NO_x Emissions Standards Changed Over Time?

Nitrogen Oxide Exhaust Emissions Standards Light Duty Automobiles



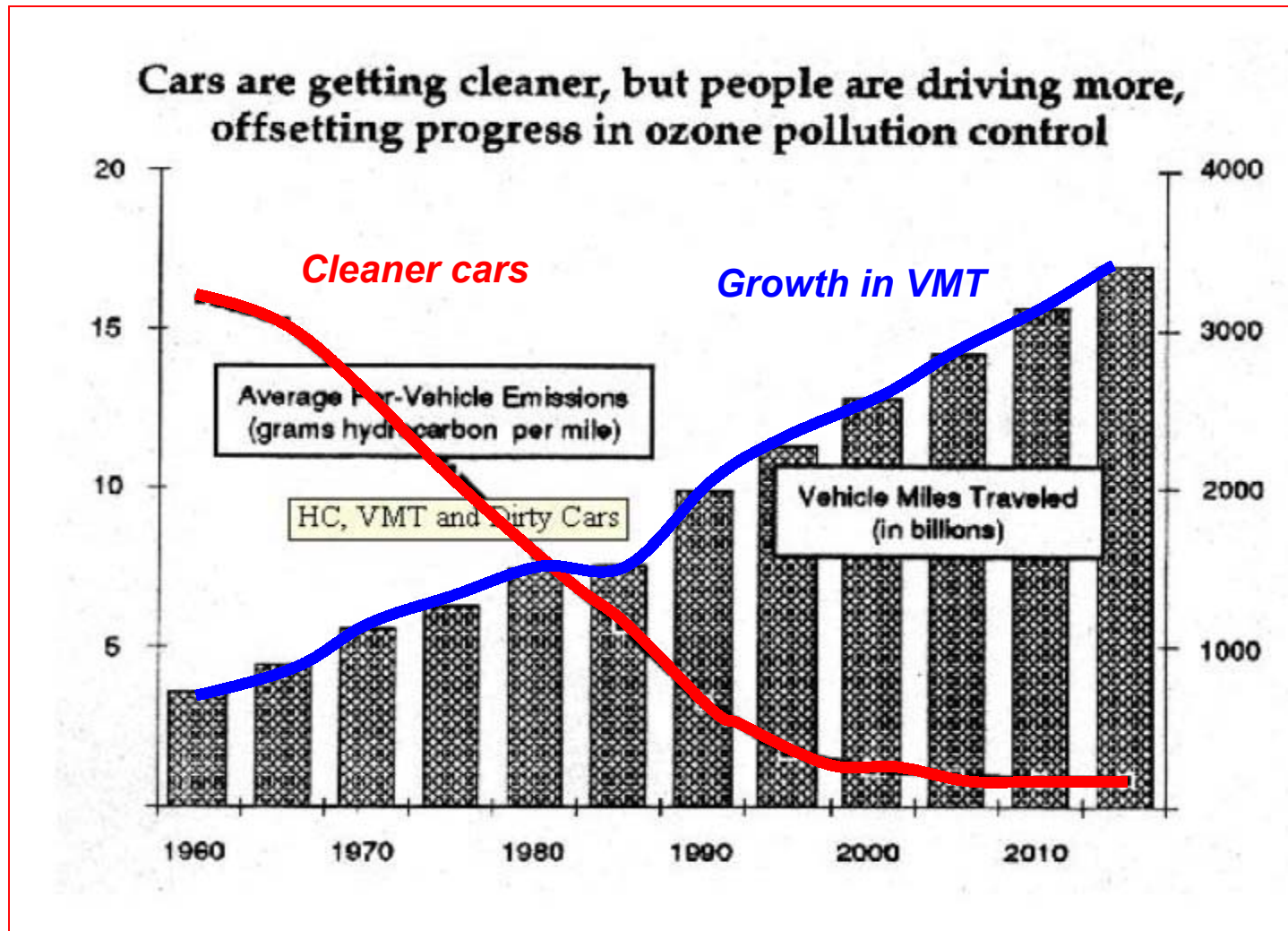
But cleaner cars compete with growth ...

How do “cleaner cars” and “Vehicle Miles Traveled” relate?



But cleaner cars compete with growth ...

How do “cleaner cars” and “Vehicle Miles Traveled” relate?



Federal Circuit Court Gives EPA the Go-ahead To Make Diesel Trucks Run Cleaner

May 3, 2002

The D.C. Circuit Court of Appeals today upheld EPA's rule to make heavy-duty trucks and buses run cleaner. The regulation requires reduced emissions from diesel trucks and buses and lower sulfur levels in diesel fuel.

"One of the Bush Administration's first actions was to move this rule forward without delay," said EPA Administrator Christie Whitman. "We applaud the court's decision to uphold such an important program. Now all Americans will receive significant health and environmental benefits from the dramatic cuts in air pollution released from these large trucks and buses. We estimate that some 8,300 premature deaths, 5,500 cases of chronic bronchitis and 17,600 cases of acute bronchitis in children will also be prevented annually," Whitman added.



"Today's decision clears the way for a new generation of less-polluting trucks and buses on our nation's streets and highways," said Tom Sansonetti, Assistant Attorney General of the Justice Department's Environment and Natural Resources Division. "The court's opinion ratifies EPA's conclusions that dramatic reductions in the emission of pollutants are technologically feasible."

The court rejected all arguments raised by the petitioners, including claims that the advanced after-treatment technology would not be available. The court also rejected claims that the level of sulfur control to 15 parts per million required by the rule was not needed to enable this technology and that it would result in supply shortfalls of diesel fuel.

National controls ...

What's in the future???



- Clear Skies Act legislation
- Cleaner cars and trucks replacing older ones
- Fuels???
- Alternative modes of transportation???
- Other innovations???? **They come from YOU!**



Reminders & Words of wisdom from today:

- **Steve Page (USEPA): “National controls are not enough; still will need local efforts.”**
- **Mike Koerber (LADCO): “ Control strategies ... one size doesn’t fit all.”**
- **Harvey Jefferies (UNC): “Analyze the ozone problem. Make sure you’re controlling the right pollutant. When developing control strategies watch for compensation modeling errors.”**